

**U.S. Environmental Protection Agency
Toxic Substances Control Act (TSCA)**

SECTION 403 RULEMAKING

"...identify lead-based paint hazards, lead-contaminated dust, and lead-contaminated soil."

**SECTION 403 DIALOGUE PROCESS
BACKGROUND INFORMATION AND
DISCUSSION GUIDE**

**FORMAT AND STRUCTURE OF
THE SECTION 403 RULE**



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FORMAT AND STRUCTURE OF THE SECTION 403 RULE

BACKGROUND INFORMATION

1.0 INTRODUCTION

Other issues papers for the dialogue process address the prevalence, measurement, and assessment of lead-based paint, lead-contaminated dust, and lead-contaminated soil. All three lead exposure media must be included in the Section 403 Rule. There are decisions to be considered, however, in determining the form of the rule, including whether to include use patterns, to set multiple tiers of standards, or to combine media in an integrated standard. This issue paper provides background for those issues relevant to the format and structure of the Section 403 Rule.

2.0 USE PATTERNS

When considering standards, it might be important to also account for use patterns of young children. The assessment of human health risk incorporates not only the presence of available sources of lead in paint, dust, or soil, but also the likelihood of human contact. Consideration of use patterns is in accord with a risk management strategy of focusing available resources on areas of greatest threat, and also in accord with Title X's stated purpose of developing a program to evaluate and reduce lead-based paint hazards in the nation's housing on a priority basis.

An example of accounting for use patterns may be found in the EPA interim Section 403 guidance [1] and the HUD Guidelines [2]. The interim Section 403 guidance for soil makes the following reference to use patterns, "the Agency recommends that further evaluation and appropriate exposure-reduction activities be undertaken when soil-lead concentrations exceed 400 ppm *at areas expected or intended to be used by children.*" In addition, there may be some areas of a residence where lead levels may be irrelevant to the task of preventing lead exposure (e.g., basement crawl spaces, attics).

Since the objective of the Section 403 rule is to characterize the residential lead-based paint hazard which, by definition, involves human exposure at levels that would result in adverse health effects, this characterization may involve recognition of the behaviors of the two most vulnerable populations.

3.0 TIERED STANDARDS

It is often assumed that a standard necessarily represents a single value for the targeted environmental medium. However, in situations such as the Section 403 rulemaking, where there exists:

- a gradual increase in the intensity of the hazard with increasing environmental exposure,
- a range of alternative intervention actions with widely varying costs, and
- an emphasis on encouraging effective action *on a priority basis*,

it may be more appropriate to specify a series of levels, each associated with a particular response and/or recommendation taken from the available range. For example, EPA may provide tiered standards that identify both when environmental levels and conditions represent a moderate level of concern and attention (thereby warranting interim controls), as well as when the levels and conditions represent a more clear and severe hazard (thereby warranting more intensive intervention action that is more costly but also more effective at insuring a permanent reduction in exposure).

In the interim Section 403 Guidance [1], EPA utilized such a rule structure with their tiered standard for soil. Recommended response activities were provided depending upon the measured bare soil-lead concentration and the use pattern of the area in question. For example, concentrations in excess of 5000 ppm prompt a recommendation of soil abatement. In contrast, lower levels, 400 ppm for areas used by children, 2000 ppm for all other areas, warrant the recommendation of interim control procedures.

4.0 INTEGRATED STANDARD — COMBINING SOIL, DUST, AND PAINT

Finally, it might be appropriate to consider a set of integrated standards. There are two primary reasons for considering an integrated standard. First, lead exposures from different media are additive. A combination of lead levels in paint, dust, and soil might together represent a health threat greater than any stemming from the media individually. Second, it may be necessary to consider data from one medium when setting a standard (or recommending actions) for another medium. An integrated standard recognizes the interconnected nature of the three environmental media, and provides recommendations or responses consistent with their combined exposure. There are myriad combinations of these factors and other factors in hazard definition, such as condition of paint and friction and impact surfaces. For example, one may not define intact paint on a friction surface as a hazard if low dust-lead and soil-lead levels are found. However, it may be defined as a

hazard if there are high dust-lead levels. The danger of any such standard lies in its complexity. If too complex, the integration becomes a black box construction that is inaccessible to many stakeholders and end-users. It is also potentially complicated to develop such an integrated standard.

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DISCUSSION ISSUES

The Environmental Protection Agency is seeking comment and insight into a range of relevant issues on this topic.

ISSUE 1. *Should the standards (or recommended actions) depend on use patterns of the two target populations (e.g., accessibility of areas for children and, if accessible, expected likelihood of exposure)?*

The definition of a lead-based paint hazard will be based on a target population of children 6 years of age or younger and pregnant women. When considering exposure to lead in dust, areas in the residence that are frequented by children and where lead hazards exist are the primary areas of exposure. Areas frequented by adults but where children rarely go, and areas rarely visited by either parent or child, represent less of an exposure threat. Rooms such as utility rooms, attics, unfinished basements, and storage rooms can be classified into one of these categories. However, rooms frequented only by parents also pose a potential lead hazard as parents can track dust from that room into common areas. Likewise, when addressing exposure to lead in soil special consideration may be required for parts of the yard where access is restricted by fencing, thorny bushes or other barriers.

How should areas in the residence, such as unfinished basements, attics, and storage rooms, that are not normal living spaces be handled?

How should areas in the a residence's yard, such as areas covered by thorny bushes or restricted by fencing, be handled?

Are use restrictions (e.g., installing fencing, closing off a room) an appropriate method for controlling hazards?

ISSUE 2. *How far should the rule go in recommending response actions?*

The interim Section 403 guidance [1] for soil provides examples of interim controls designed to change use patterns (such as planting thorny shrubs to limit access, moving play equipment, or installing fencing) when soil levels exceed 400 ppm. When soil levels exceed 5000 ppm in residential bare soil,

the guidance recommends soil abatement. A range of similar response actions may also be appropriate for different levels of dust-lead loading and concentration, with low levels resulting in recommendation of routine cleaning, and high levels resulting in specialized cleaning or response actions directed at other media. What is the appropriate extent of recommending response actions in this rulemaking?

ISSUE 3. *Should each medium (paint, dust, soil) have a separate standard or should the risks posed by each medium be combined into an integrated standard?*

There are two primary reasons for considering an integrated standard. First, lead exposure from different media is additive. A combination of lead levels in paint, dust, and soil might together represent a health threat greater than any stemming from the media individually. Second, it may be necessary to consider data from one medium when setting a standard (or recommending actions) for another medium. See Section 4.0 of the paper, "Format and Structure of the Section 403 Rule: Background Information", for further discussion.

Following are two completely hypothetical examples of how an integrated standard may be implemented, presented for illustration purposes only. The first example presents an integrated standard in a very simple form where the standard for dust is dependent on soil. The second example presents a more complex integrated standard involving dust, soil, and the presence of lead-based paint (LBP) on targeted surfaces (friction, impact, chewable surfaces).

HYPOTHETICAL

EXAMPLE 1: The standard for dust is set at 200 $\mu\text{g}/\text{ft}^2$ if soil levels are less than 1000 ppm. The standard for dust is set at 100 $\mu\text{g}/\text{ft}^2$ if soil levels are greater than or equal to 1000 ppm.

HYPOTHETICAL

EXAMPLE 2: A home passes an integrated standard for paint, dust, and soil if one of these conditions is met:

A. There is no deteriorated LBP

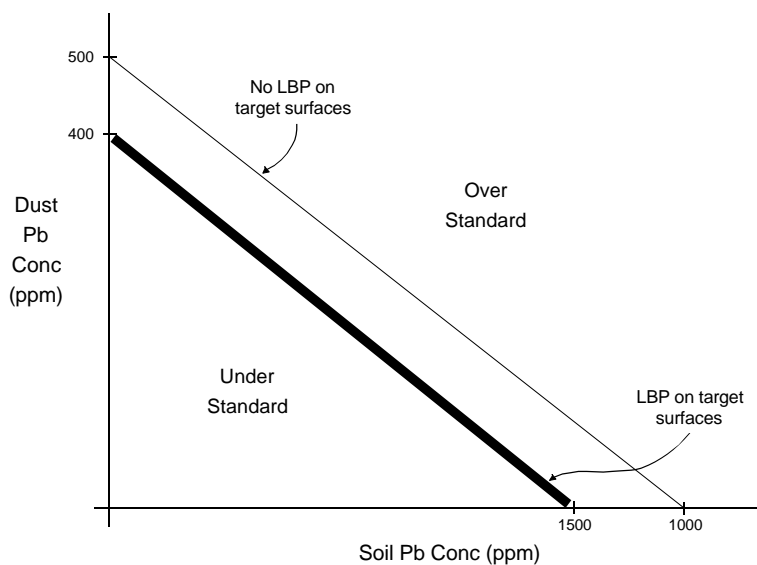
and there is no LBP on target surfaces

and the point representing soil and dust levels falls below the thin line on the graph below.

B. There is no deteriorated LBP

and there is LBP on target surfaces

and the point representing soil and dust levels falls below the thick line on the graph below.



ISSUE 4. *Should a de minimis level (area) for deteriorated paint be set for individual components or for an entire residence?*

At the first dialogue meeting, we discussed the option of setting a de minimis level of deteriorated paint. Although we did not propose a specific level, we offered the levels presented in the HUD Guidelines, which apply to individual architectural components, as one option. Further review suggests, however, that a component-based approach could produce unintended and undesirable consequences.

For example, a residence could have numerous components with deteriorated paint but no one component that has deterioration that exceeds the de minimis level. Using the component-based approach, no hazard would be identified even though the total area of deterioration could

be significant. In contrast, a residence could have deterioration on only one component but the area exceeds the de minimis levels. This residence would be considered to have a lead-based paint hazard although the total surface area of deterioration is relatively low. With a residence-based de minimis level, these outcomes could be avoided.

Would a residence-based de minimis level produce hazard determinations that are more consistent with exposures? Are there unintended or undesirable outcomes that could result from the residence-based approach? (Please note that under a residence-based approach, risk assessors should still (1) identify the components where deterioration exists and (2) recommend property owners focus intervention on those components.

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REFERENCES

- [1] U.S. Environmental Protection Agency, "Guidance on Identification of Lead-Based Paint Hazards;" Notice. Federal Register, pp 47248-47257, September 11, 1995.
- [2] U.S. Department of Housing and Urban Development, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing." Office of Lead-Based Paint Abatement and Poisoning Prevention, Washington DC, HUD-1539-LBP, July 1995.

